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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/120,664	07/22/1998	DAVID F. GAVIN	101792-100	2454
27267 7590 12/31/2007 WIGGIN AND DANA LLP ATTENTION: PATENT DOCKETING ONE CENTURY TOWER, P.O. BOX 1832 NEW HAVEN, CT 06508-1832			EXAMINER GROSS, CHRISTOPHER M	
			ART UNIT 1639	PAPER NUMBER
			MAIL DATE 12/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/120,664	Applicant(s) GAVIN ET AL.	
	Examiner Christopher M. Gross	Art Unit 1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 19 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,38,40-42 and 46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,38,40-42 and 46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Responsive to communications entered 10/19/2007. Claims 1,38,40,41,42,46 are pending. Claims 1,38,40,41,42,46 are under consideration.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Priority

This application has a filing date of 7/22/1998. Applicant makes no claim for the benefit of any prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c).

Specification

The amendment to the abstract entered 10/19/2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "[a] core consisting essentially of a metal or metal-containing compound..." and "[a] shell consisting essentially of a pyrrhione adduct..." This is considered new matter because applicant has redefined the invention from a core and shell open to any other materials (i.e. comprising) to a core and shell, each of which excludes material that does not materially affect the basic and novel characteristics of the claimed invention in accordance with MPEP 2113.03.

Applicant is required to cancel the new matter in the reply to this Office Action.

Withdrawn Objection(s) and/or Rejection(s)

The rejection of claims 43 and 44 under 35 U.S.C. 102(e) as being anticipated by Morris US Pat. No. 5,916,947 (6/99: filed 9/96 or earlier) is hereby withdrawn in view of applicant's cancellation of claims 43 and 44.

The rejection of claims 43 and 44 under 35 U.S.C. 102(e) as being anticipated by Hani et al. US Pat. No. 6,162,446 (12/00: filed 3/98) is hereby withdrawn in view of applicant's cancellation of claims 43 and 44.

The rejection of claims 43 and 44 under 35 U.S.C. 102(e) as being anticipated by Mohseni et al. US Pat. No. 6,465,015 (10/02: filed 2/98) is hereby withdrawn in view of applicant's cancellation of claims 43 and 44.

The rejection of claims 43-45 under 35 U.S.C. 103(a) as being unpatentable over Morris US Pat. No. 5,916,947, Hani et al. US Pat. No. 6,162,446 or Mohseni et al. US Pat. No. 6,465,015 as applied to claims 1, 38, 40, 41, 43 and 44 above, and further in view of Kappock et al. US Pat. No. 5,518,774 (5/96) is hereby withdrawn in view of applicant's cancellation of claims 43-45.

The rejection of claim 45 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (NEW MATTER REJECTION) is hereby withdrawn in view of applicant's cancellation of claim 45.

The rejection of claims 1, 38 and 40-46 under 35 U.S.C. 103(a) as being unpatentable over Morris US Pat. No. 5,916,947, Hani et al. US Pat. No. 6,162,446 or Mohseni et al. US Pat. No. 6,465,015 as applied to claims 1, 38, 40, 41, 43 and 44 above, and further in view of Kappock et al. US Pat. No. 5,518,774 (5/96) is hereby withdrawn in view of applicant's amendments the claims such that each of Morris et al, Hani et al and Mohseni et al now read on claim 42 and Morris et al reads on dependent claim 46.

Maintained Claim Rejection - 35 USC § 112 First Paragraph

Claims 42 and 46 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (NEW MATTER REJECTION).

Response to Arguments

Applicant argues see paragraph bridging pp 6-7 (10/19/2007) that the proviso set forth in claim 42 "when the metal or metal-containing compound comprises copper and the metal pyrithione is copper pyrithione then the metal pyrithione and the metal or metal-containing compound are present within a weight range of ratios of from 1:20 to 20:1 of metal pyrithione relative to the metal or metal-containing compound" finds support at page 10, line 23 to page 11 line 2.

Applicant's arguments have been considered but are not deemed persuasive for the following reasons.

The cited passage, as mentioned in the last office action, fails to provide support since the ratio (1:20 to 20:1) refers specifically to a copper containing salt, hydroxide or oxide rather than the broader "metal or metal-containing compound comprising copper," the latter of which, from claim 42, which would include materials such as Copper Selenide, for instance.

Accordingly, there is no support in the specification for metal or metal-containing compounds other than copper salts, copper hydroxide, or cuprous oxide with respect to copper pyrithione for the presently claimed weight ratio range.

Therefore, this rejection is hereby maintained.

Maintained Claim Rejections - 35 USC § 102

Claims 1, 38, 40, 41, 42, 46 are rejected under 35 U.S.C. 102(e) as being anticipated by Morris US Pat. No. 5,916,947 (6/99: filed 9/96 or earlier).

Please note that the above rejection has been modified from the original version to more clearly address applicants' newly amended and/or added claims and/or cancelled claims and/or arguments. Specifically the proviso concerning weight ratios set forth in claim 42 now only applies toward copper containing materials whereas Morris et al teach Zinc Oxide particles coated with Zinc Pyrithione, therefore Morris et al now reads on claim 42, and for the produc-byprocess concerns set forth below, Morris et al reads on claim 46 as well.

Response to Arguments

Applicant argues that Morris et al do not teach all elements.

Applicant's arguments have been fully considered but they are not persuasive for the following reasons.

Specifically, applicant argues, see paragraph bridging pp 7-8 (10/19/2007) that the biocidal composition of Morris is not formed by a transchelation reaction of a *water-soluble* salt of pyrrithione selected from the group consisting of sodium pyrrithione and porassium pyrrithione with a portion of the metal or metal-containing compound of [the] core, such as set forth in claim 1.

It is noted however, the physical deposition method of Morris et al (e.g. see claim 9) using water insoluble Zinc Pyrrithione: $[ZnO \text{ (core)} + ZnPT_2 \rightarrow ZnO \text{ (core)} + ZnPT_2 \text{ (shell)}]$ still provides the same material as the transchelation process of the instant claimed invention: $[2 ZnO + 2NaPT \rightarrow ZnO \text{ (core)} + ZnPT_2 \text{ (shell)}]$. Therefore, the product of Morris et al. meets all of the structural limitations of the claimed product (see above) except for the product-by-process limitations (i.e a metal pyrrithione *formed* by a transchelation reaction of a water-soluble salt of pyrrithione selected from the group consisting of sodium pyrrithione and porassium pyrrithione) and thus would anticipate the claimed biocidal composition. See MPEP § 2113, "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product

was made by a different process.' *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)." Here, Applicants' claims are drawn to a biocidal composition (i.e., a product), but are defined by various method steps that produce said biocide and, as a result, represent product-by-process claims. Thus, the process limitations do not appear to provide any patentable weight to the claimed invention in accordance with MPEP § 2113. One of ordinary skill would expect the product to be the same no matter how it was synthesized and/or prepared.

Indeed Morris et al disclose in example 4, the excellent antifouling properties of Zinc Oxide particles coated with Zinc Pyrithione and, according to *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990): "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not."

Claims 1, 38, 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Hani et al. US Pat. No. 6,162,446 (12/00: filed 3/98).

Claims 1, 38, 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Mohseni et al. US Pat. No. 6,465,015 (10/02: filed 2/98)

Please note that the above rejections have been modified from the original versions to more clearly address applicants' newly amended and/or added claims and/or cancelled claims and/or arguments. Specifically the proviso concerning weight ratios set forth in claim 42 now only applies toward copper containing materials whereas Hani et al as well as Mohseni et al teach particles consisting of a core and shell both

composing Zinc Pyrithione, therefore both Hani et al and Mohseni each read on claim 42.

Response to Arguments

Applicant argues that Hani et al and Mohseni et al do not teach all elements.

Applicant's arguments have been fully considered but they are not persuasive for the following reasons.

Specifically applicant argues, see p 8-9 (10/19/2007) that neither Hani et al or Mohseni et al suggest a Zinc Oxide core and a shell consisting essentially of Zinc Pyithione.

Applicant further argues, see p 8 (10/19/2007) that the particles according to Hani et al and Mohseni et al represent discrete particles which lack a core and shell. It is the Examiner's position, however, that all particles *inherently* comprise a shell and core as described in detail in the last office action on p 7-8.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., Zinc Oxide core) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, according to MPEP 2111.03, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, the phrase "consisting essentially of" will be construed as equivalent to "comprising." Here, despite applicant's amendments to the abstract, it remains unclear as to what the basic

and novel characteristic is concerning the claimed subject matter, which may be considered any of: the composite nature of the particles (i.e. see title of the present invention); the combination of hard and soft fouling biocides (i.e. see p 2-3 of the present specification) or the transchelation reaction as providing surprising results.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Gross whose telephone number is (571)272-4446. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. Douglas Schultz can be reached on 571 272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

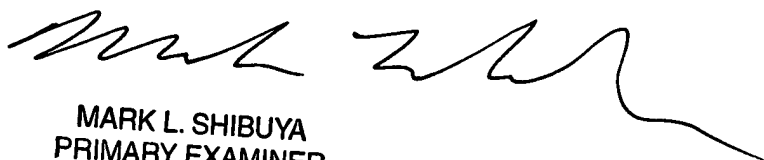
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Christopher M Gross
Examiner
Art Unit 1639

cg



MARK L. SHIBUYA
PRIMARY EXAMINER